

# **Demographic change and regional development strategies: some suggestions from human capital demographic projections. Lessons learned in Emilia-Romagna and Friuli Venezia Giulia Italian Regions**

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## **Introduction**

In the last decades demographic change has been considered more and more important on the debate about territorial possible path of growth.

Of the wide range of phenomenon determining considerable change in the demographic picture of a territorial area, ageing and population movements are commonly recognized as factors importantly impacting territorial growth. In the EU framework is recognized "the need of a broader view of the link between migration and development" and to "integrating migration into development policy"<sup>1</sup>.

These are two of the main ideas guiding our work where the implication of population movements in terms of demographic change and its importance in depicting policy scenarios at regional scale are considered.

This study is part of the activity foreseen by the MMWD project : Making Migration Work for Development – Policy tools for strategic planning in SEE regions and cities which is a strategic project funded by the SEE program and of which Emilia-Romagna and Friuli Venezia Giulia are partners.

MMWD project aims at depict the effect that demographic change, particularly in the component impacted by population movements, will possibly have in terms of socio-economic development of local areas. In particular, it aims at offering concrete knowledge-based tools to policy-makers at both sub-national and trans-national level - in policy areas that are clearly impacted by demographic changes, and particularly by migration; policy areas critical for sustainable growth and competitiveness: labour market (to promote employment), human capital (to raise productivity and economic performance), and the local offer of social services (to ensure their sustainability as well as global social wellbeing).

## **Rationale, data and methods.**

Human capital is a wide concept that considers not only the years of schooling but also its attainment, formal and informal education<sup>2</sup> some time with no clear limits and measurement possibility that why it is common to assume the educational level characteristics of a population as a human capital proxy<sup>3</sup> and, in this contest, consider human capital as a determinant of social and economic growth<sup>4</sup> influenced by migration movement. Human capital and migration also relates to the catching up processes among different countries of the same regional Area and thus it becomes fundamental reinforce the capacity of public administrations to

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<sup>1</sup> COM(2013) 292 final, "Maximising the Development Impact of Migration".

<sup>2</sup> Acemoglu D, Autor D, "Lectures on labor Economics"; <http://economics.mit.edu/files/4689>

<sup>3</sup> Lutz W., Goujon A., Wils A. (2005), Forecasting Human Capital, FHI 360.

<sup>4</sup> Solow (1956)

understand, anticipate and strategically manage the implications of demographic change for the growth and cohesion of European regions and cities, and for the overall integration of the SEE area.

This study aims to describe the effect of migration movements, mainly immigration given the specific situation of the two involved areas, in the future evolution of the population human capital and the way this can contribute to the identification of critical development issues.

The adopted method follows the approach proposed by A. Goujon for the estimation and projection of education transition probability<sup>5</sup> and already applied in various context<sup>6</sup>.

The basic needed information is a time series by age, sex and educational attainment on which derive age- and sex-specific education transitional probabilities along cohort line. While from administrative archive basic demographic information about students are well known, achieve the distribution of the whole population by educational attainment is not immediate. The better source is represented by census data that have, per its nature, great potentiality for territorial analysis at local level but the well known disadvantage of a 10-year that could affect the possibility of trend detection. Furthermore, given the recent demographic evolution of the Italian context, more and more characterized by the presence of foreign population, is the inter-census period that can give information about the growing presence of migrant in the human capital formation of a population. Set this assumption, IT-Labour Force Survey data have been considered as major source of information. While is a survey reach of information, harmonized in the EU and also non EU countries and allow for quarterly and annual average estimates, in a context of regional utilization, the reliability of the estimates should carefully addressed. The reliability of the estimates is a particularly restricting conditions when separate estimates for national and not-national population would be computed.

The necessity to compute educational transition probabilities not only for the whole population but also differentiating between national and non-national citizenship is the direct result of the attention paid in the MMWD project to the understanding of the migration impact on the growth perspective of our Regions and about the critical point to be faced up to 2020.

LFS data provide suitable estimates of the resident population demographic profile by sex and five-year age group from 15 years up to 60 years. The lower limit is given by the sample design that collect info on the higher educational level of attainment for the population aged more than 14 years while the upper limit is defined by estimates stability. Stable estimates are only achievable as annual average therefore, the five years age group and the availability of comparable data from 2004 to 2012 allow for the computation of three groups of transition

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<sup>5</sup> Goujon A., "Report on projections by level of education (Future human capital: Estimates and projections of education transition probabilities)", Vienna Institute of Demography, Austrian Academy of Sciences <http://www.nidi.nl/Content/NIDI/output/micmac/micmac-d3.pdf> .

<sup>6</sup> „ Projection of populations by level of educational attainment, age, and sex for 120 countries for 2005-2050" by KC Samir, B. Barakat, A. Goujon, V. Skirbekk, W. Sanderson & W. Lutz, DEMOGRAPHIC RESEARCH VOLUME 22, ARTICLE 15, PAGES 383-472. <http://www.demographic-research.org/Volumes/Vol22/15/DOI:10.4054/DemRes.2010.22.15>

probabilities. Some corrections have been made to the transition probabilities using linear interpolation in order to smooth the curves and avoid strange pattern caused by the fact we are estimating cohort line evolution by cross-sectional data.

Finally, in order to get stable estimates and having in mind the overall perspective of MMWD project, the LFS classification of educational levels has been reduced to 4 levels: primary school or no formal education (level 1), compulsory school (level 2), upper secondary level of education which allows going to the university (level 3), and the tertiary level (level 4).

A pattern of age-specific transition probabilities for cohorts can be interpreted as a probability for a population at a specific age and in a given year to move to a higher category of educational attainment by the following year. While the distribution by educational attainment is available from 15 to 60 years, educational transition probabilities has been computed for the age group between 15-19 years and 30-34 years while over this upper limit transition are negligible.

Educational levels are hierarchical, that is an individual cannot enroll to a given level of education if he has not completed all the previous levels. In addition, while there is a normative regulation about school age and educational level, level of education are not completed at the same age by everyone because of differences in age at entrance and repetition of grades. This situation determines a not zero transition probability for more than one age group, in fact, for instance, the passage from middle to upper secondary school is characterized not only by 13 years old population but also aged 14-15-16.

Once the series of the educational transition probabilities by 5-years age group, sex and citizenship (national vs non-national) are derived, by the combination with basic population projection the distribution of the population by level of educational attainment is obtained.

### **First results and further development.**

The analysis of the estimated educational transition probabilities shows important peculiarities related to citizenship; in particular, young population of foreign citizenship, in both male and female subgroup, are characterized by lower transition probability respect to nationals belonging to the same age-group and educational level.

The main difference is revealed in the transition between compulsory school to upper secondary education which allows the university enrolment.

The composition of the young population up to 2020 is expected to be increasingly represented by people with foreign citizenship for the combination between a stagnation or even decrease of the new-born with Italian citizenship and a stable or slightly increase in number of new born with foreign citizenship<sup>7</sup> up to 2020.

The linkage among human capital and economic and social growth and cohesion, and the well recognized relation among educational attainment – labour participation – sector of activity and social behaviour of young population, in particular with foreign background, will realize their educational structure becoming an essential policy issues.

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<sup>7</sup> Directly influenced by the Italian law on citizenship acquisition, which is based on the *ius sanguinis* - a child born in the Italian territory with both foreign parents doesn't acquire the Italian citizenship.

The outputs of the study, which is ongoing, will be the basement for integrated scenario construction covering the three policy streams, so as planned in MMWD project. Moreover, they will allow a complete analysis in other research areas, in particular focusing on labour economy. Finally, it is important to underline that this research aims at developing and improving a method also by better identify its hypothesis, in order to be used systematically in defining regional social policy.